

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Re: Appeal to the Board of Patent Appeals and Interferences

| | | | | |
|-------------------|--|---|---------------------|--------------|
| Appellants: | Jarvis, et al. |) | Examiner: | Jane J. Rhee |
| | |) | | |
| Appl. No: | 09/828,715 |) | Art Unit: | 1795 |
| | |) | | |
| Filed: | April 6, 2001 |) | Deposit Account: | 04-1403 |
| | |) | | |
| Confirmation No.: | 5602 |) | Customer No: | 22827 |
| | |) | | |
| Title: | "A Method of Joining Two or More Substrates with a Seam |) | Attorney Docket No: | WLG-1 |
| | |) | | |

1. ☐ **NOTICE OF APPEAL:** Pursuant to 37 CFR 41.31, Applicant hereby appeals to the Board of Appeals from the decision dated _____ of the Examiner twice/finally rejecting claims _____.
2. ☒ **BRIEF** on appeal in this application pursuant to 37 CFR 41.37 is transmitted herewith (1 copy).
3. ☐ An **ORAL HEARING** is respectfully requested under 37 CFR 41.47 (due within two months after Examiner's Answer).
4. ☐ Reply Brief under 37 CFR 41.41(b) is transmitted herewith (1 copy).
5. ☐ "Small entity" verified statement filed: [] herewith [] previously.

6. **FEE CALCULATION:**

| | Fees |
|--|------------------|
| If box 1 above is X'd enter \$ 510.00 | \$ <u>0.00</u> |
| If box 2 above is X'd enter \$ 510.00 | \$ <u>510.00</u> |
| If box 3 above is X'd enter \$1,030.00 | \$ <u>0.00</u> |
| If box 4 above is X-d enter -0- (no fee) | \$ <u>0.00</u> |

PETITION is hereby made to extend the original due date of December 31, 2007,

hereby made for an extension to cover the date this response is filed for which the requisite fee is enclosed (1 month \$120; 2 months \$460; 3 months \$1,050; 4 months \$1,640, 5 months \$2,230

\$ 120.00

SUBTOTAL: \$ 630.00

Less any previous extension fee paid since above original due date. - \$ 0.00

SUBTOTAL: \$ 630.00

If "small entity" verified statement filed ☐ previously,

☐ herewith, enter one-half (½) of subtotal and subtract - \$ 0.00

TOTAL FEE ENCLOSED: \$ 630.00

- ☐ Fee enclosed.
- ☐ Charge fee to our Deposit Account/Order Nos. in the heading hereof (for which purpose one additional copy of this sheet is attached)
- ☒ Charge to credit card (attach Credit Card Payment Form – PTO 2038)
- ☐ Fee NOT required since paid in prior appeal in which the Board of Appeals did not render a decision on the merits.


The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

DORITY & MANNING ATTORNEYS AT LAW, P.A.

ADDRESS:

Post Office Box 1449
Greenville, SC 29602 USA
Customer ID No.: 22827
Telephone: (864) 271-1592
Facsimile: (864) 233-7342

By: Christina L. Mangelsen Reg. No: 50,244

Signature: 

Date: January 31, 2008

I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on January 31, 2008.

Heidi M. Lewis

(Typed or printed name of person transmitting documents)


(Signature of person transmitting documents)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES**

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BRIEF ON APPEAL

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Honorable Commissioner:

Appellants submit the following Brief on Appeal in accordance with 37 C.F.R. §
41.37:

1. REAL PARTY IN INTEREST

The real party in interest in this matter is the assignee of record, Clemson
University.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellants or the
Appellants' legal representative which will directly affect or be directly affected by or
have a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Claims 100, 101, 103-113, and 123 are pending in this application, including independent claims 100 and 123. Claims 1-99, 102, 114-122, and 124-125 have been previously canceled. All of the claims involved in this Appeal are attached hereto at the Claims Appendix.

Claims 100, 101, 103-113, and 123 stand rejected. The rejections of claims 100, 101, 103-113, and 123 are hereby appealed.

4. STATUS OF AMENDMENTS

To the Appellants' knowledge, all amendments have been entered into the record.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The pending claims are directed in one embodiment (independent claim 100) to a five layer stitchless seam comprising a first thermoplastic tape portion, a first substrate portion in contact with the first thermoplastic tape portion, a second thermoplastic tape portion in contact with the first substrate portion, a second substrate portion in contact with the second thermoplastic tape portion, and a third thermoplastic tape portion in contact with the second substrate portion (Fig. 3; p. 7, ll. 20-28) to provide a flexible (p. 18, ll. 10-19) stitchless (p. 11, ll. 11 – 15) seam between the five layers. At least one of the first thermoplastic tape portion, the second thermoplastic tape portion, and the third thermoplastic tape portion is a multi-layer tape portion that runs the length of the seam (p. 6, l. 27 – p. 7, l. 6; p. 9, l. 27-28). In addition, at least one of the first thermoplastic tape portion, the second thermoplastic tape portion, and the third thermoplastic tape

portion includes a first continuous layer having a first melting point and a second continuous layer having a second melting point (Fig. 5, p. 12, l. 24 – p. 13, l. 17).

According to another embodiment (independent claim 123), the pending claims are directed to a multilayer stitchless seam comprising a first tape portion, a first substrate portion in contact with the first tape portion, a second tape portion in contact with the first substrate portion, a second substrate portion in contact with the second tape portion, a third tape portion in contact with the second substrate portion (Fig. 3; p. 7, ll. 20-28) to provide a flexible seam (p. 18, ll. 10-19) between the layers, and a third substrate portion (p. 4, ll. 26-27), wherein at least one of the first substrate and the second substrate is a composite substrate comprising at least two layers (p.5, ll. 7-14; Example 1).

6. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

In the Final Office Action, claims 100, 101, and 103-113 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gaylord, Jr. (U.S. Patent No. 3,970,079) in view of Webb (U.S. Patent No. 2,372,632).

In the Final Office Action, claims 123-125 were rejected under 35 U.S.C. §102(b) as being anticipated by Obayashi, et al. (U.S. Patent No. 4,410,575).

Subsequent to the Final Office Action, an amendment was entered by the Examiner incorporating the limitation of dependent claim 124 into independent claim 123 and cancelling dependent claims 124 and 125, so as to remove issues for appeal. In the Advisory Action dated August 22, 2007, the rejection of amended independent claim 123 under 35 U.S.C. §102(b) as being anticipated by Obayashi, et al. was maintained.

7. ARGUMENT

I. Claims 100, 101, and 103-113 are patentably distinct over Gaylord, Jr. (U.S Patent No. 3,970,079) in view of Webb (U.S. Patent No. 2,372,632).

Gaylord, Jr. discloses an elongate body support binder comprising serially arranged fabric panels and a joint structure for interconnecting the adjacent ends of the panels (Abstract). Specifically, the panels are joined by a strip of plastic material which serves not only to join the panels, but also to provide sufficient resistance to lateral bending to prevent the rolling of the side edges of the panels during use (col. 1, ll. 40-46). Thus, the joints of the body support binder of Gaylord, Jr. are not flexible seams, but are joints that provide resistance to lateral bending and prevent rolling of the side edges of the panels (col. 2, ll. 587-62).

Webb is directed to methods and seams for joining fabric sections and articles of manufacture having fabric sections joined by the stitched seams (p. 1, col. 1, ll. 1-4). More specifically, Webb describes a watertight stitched seam in which the stitches are completely enclosed within the seam through the folding of a tape about the seam (p.1, col. 2, ll. 16-27). The tape is described as a pliable tape (p. 2, col. 1, l. 10). Products described by Webb include raincoats and other such articles (p. 1, col. 1, ll. 5-6). Thus, the tapes utilized by Webb are pliable and the seams incorporating these tapes are flexible seams as are found in raincoats and similar articles of manufacture.

Appellants respectfully submit that the cited references, Gaylord, Jr. and Webb cannot properly be combined to render the pending claims obvious over the cited art.

A. A person of ordinary skill in the art, having common sense at the time of the invention, would not have reasonably combined Gaylord, Jr. and Webb.

The key to supporting any rejection under 35 U.S.C. §103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. “Rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” (KSR Int’l Co. v. Teleflex Inc., 127 S. Ct. 1727, 82 USPQ2d 1385, 1396 (2007) (quoting In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)).

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

Accordingly, even if all elements of a claim are disclosed in various prior art references, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill would have been prompted to modify the teachings of the references to arrive at the claimed invention. See e.g., In re Regel, 188 U.S.P.Q. 132 (C.C.P.A. 1975).

Gaylord, Jr. is directed to an elongate body support binder adapted to encircle and reinforce a portion of the body of a wearer and characterized by the ability to resist rolling of the longitudinal side edges when in use without employing separate stiffeners and the like (col. 1, ll. 4-10). Webb is directed to garments, and specifically, raincoats. Thus, the references both disclose wearable objects. Similarities between the two

references end there, however. For instance, the support binders of Gaylord, Jr. are worn tight against a body to provide firm body support (col. 1, ll. 28-32), for instance in the thoracic region of a wearer, as shown in Figures 1 and 2. Webb, in contrast, is directed to watertight seams for high-grade raincoats and other such articles.

Gaylord, Jr. addresses problems of previous body support binders in which stitched seams allowed the longitudinal side edges of the binder to roll upon themselves (Col. 1, ll. 10-27). Gaylord, Jr. solves this problem by replacement of the stitched seams with a joint formed of a strip of plastic material that can not only serve to join the panels, but can also provide sufficient resistance to lateral bending (col. 2, ll. 44-62). The panels of the body support binder of Gaylord, Jr. may comprise a conventional textile fabric including elastic strands extending in the longitudinal or body encircling direction. The fabric is disclosed as containing 65% cotton fibers, 25% rayon, and 10% rubber, and when worn, the binder may be slightly stretched (col. 3, ll. 22-29). There is no suggestion that the body support binders Gaylord, Jr. are waterproof or even water resistant.

Webb, in contrast, addresses the problem of persistent leakage in stitched seams of garments such as raincoats (i.e., waterproof or water resistant garments) due to the stitches acting as wicks to carry moisture from the outside of the garment to the inside thereof (col. 1, ll. 5-16). Webb solves this problem by covering the stitching with a foldable, pliable tape (col. 1, ll. 49- 52; p.2, col. 1, ll. 9-11).

Appellants respectfully submit that no rationale exists to explain why one of ordinary skill in the art, given the stiffened body support binder of Gaylord, Jr., would look to a reference describing flexible waterproof outerwear, as is described by Webb,

for suggestions for modification. The two references teach products that are fundamentally different from one another and require different characteristics altogether, e.g., stiffness vs. flexibility, body support vs. external protection, no water resistance vs. a requirement for water resistance, and the like.

Applicants respectfully submit that no proper rationale has been provided for combining teachings of the references as was suggested in the Final Office Action. In the Final Office Action, it was suggested that one of skill in the art would be motivated to provide the body support binder joint of Gaylord, Jr. with the multilayer tape portion of Webb to create a water tight seam as taught by Webb. However, no rational underpinning has been provided as to why one of ordinary skill in the art would want to provide the body support binder of Gaylord, Jr. with the watertight seam of Webb, particularly as the body support binders of Gaylord, Jr. are not disclosed as being watertight, or even water resistant.

Accordingly, Appellants respectfully submit that the initial burden of the Patent Office of presenting a *prima facie* case of unpatentability has not been met and request withdrawal of the rejection and allowance of the claims.

B. The suggested combination to arrive at the limitations of claims 100, 101, and 103-113 would cause Gaylord, Jr. to become inoperable or destroy its intended function.

There must be some rationale to support the legal conclusion of obviousness, and if a proposal for modifying the prior art in an effort to attain the claimed invention causes the art to become inoperable or destroys its intended function, the proposed modification is not supported. (see, e.g., *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1385, 1396 (2007), and *In re Gordon*, 733 F2d. 900, 221 USPQ 1125, Fed.

Circ. (1984)). Moreover, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. (*In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)).

Gaylord, Jr. requires that the joints between individual panels of the body support binder be resistant to lateral bending. This bending resistance at the joints is the major focus of the disclosure of Gaylord, Jr.

The suggested modification, which would utilize the pliable tape of Webb in place of the plastic strip material of Gaylord, Jr., would destroy the stiffening aspect brought to the joints of the body support binder by the plastic strips. The plastic stripping material of Gaylord, Jr. is not a pliable tape as is found in Webb, but is described rather as plastic strip that when folded over upon itself, as shown in the Figures, can provide resistance to lateral bending and thereby resist rolling of the longitudinal side edges of the body support binder. The watertight seams of Webb provide no such stiffening aspect. The seams of Webb are found on raincoats and multilayer tape as may be used in forming the seams is described as pliable (p.2, col. 1, l. 10). Appellants respectfully submit that the suggested modification of the body support binder joints of Gaylord, Jr., which would replace the plastic stripping material of Gaylord, Jr. with the multilayer pliable tape of Webb, would destroy the resistance to lateral bending that is required in the joints of Gaylord, Jr.

Appellants further respectfully submit that no proper rationale can exist for combining the references as suggested as the combination would destroy the intended

function of Gaylord, Jr. For at least this reason, Appellants request withdrawal of the rejection and allowance of the claims.

C. Only improper hindsight gained from exposure to Appellants' disclosure would lead the person of ordinary skill from Gaylord, Jr. and Webb to the limitations of claims 100, 101, and 103-113.

The Federal Circuit has repeatedly warned against using the Appellants' disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art. See Grain Processing Corp. v. American Maize-Products, 5 U.S.P.Q.2d 1788 (Fed. Cir. 1988).

The U.S. Supreme Court recently reaffirmed that "[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of argument reliant upon ex post reasoning." KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 82 USPQ2d at 1397. See also, Graham v. John Deere Co., 383 U.S. at 36, 148 USPQ at 474.

In order to modify the references to arrive at the limitations of the pending claims, one would have to combine Gaylord, Jr., which teaches a body support binder that includes joints that resist lateral bending and prevent the rolling of the side edges of the panels during use, with the teaching of Webb, which teaches a watertight seam for a raincoat. As discussed above, Appellants respectfully submit that no proper rationale has been put forth to explain why one of ordinary skill in the art would attempt to combine teachings from these two references as suggested in the Final Office Action.

Moreover, in order to combine Gaylord, Jr. with Webb as suggested, one of ordinary skill in the art would need to utilize the pliable, multilayer tape of Webb in place of the plastic strips of Gaylord, Jr., thus destroying the intended function of Gaylord, Jr.,

and rendering the joint of Gaylord, Jr., which is required to resist lateral bending, into a flexible seam, as is found in Webb.

Appellants respectfully submit that no proper rationale exists for such modifications. Plainly, the Examiner's only rationale for so modifying Gaylord, Jr. using the teachings of Webb in the manner suggested in the Final Office Action results from using Appellants' disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art, which is improper under 35 U.S.C. § 103. Accordingly, it is respectfully submitted that any such modification of the cited references relies on the impermissible use of hindsight, which cannot be successfully used to support a *prima facie* case of obviousness, and Appellants request withdrawal of the rejection and allowance of the claims.

**II. Independent claim 123 is patentably distinct over Obayashi, et al.
(U.S. Patent No. 4,410,575).**

Obayashi, et al. is directed to lap welding textiles. Specifically, Obayashi, et al. discloses a method including superposing two end portions of one or two textile fabrics while interposing a piece of bonding tape between the two end portions. For instance, and with reference to Figures 4-6 and col. 5, ll. 18-31 of Obayashi, et al., the welded seam can include two fabrics **1** and **2** and a tape **11** between the end portion **3** of the fabric **1** and the end portion **4** of the fabric **2**. The non-melted side edge portions of the tape **11** form fin-shaped projections **12** and **13** extending from the weld. The fin-shaped projections **12** and **13** can be deformed and led to outside the welded portion in the directions as indicated by C' and D' on Figure 6.

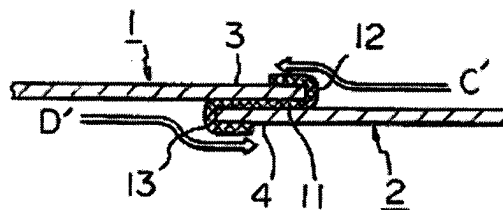
**A. Independent claims 123 includes limitations neither disclosed
nor suggested by Obayashi, et al.**

A claim is anticipated only if each and every element as set forth in the claim is found in a single prior art reference. See *Verdegaal Bros. v. Union Oil Co. of Calif.*, 814 F.2d 628 (Fed. Cir. 1987). Although anticipation under Section 102 is not an *ipsissimis verbis* test (e.g., identity of terminology is not required), the elements must be arranged as required by the claim, and the identical invention must be shown in as complete detail as is contained in the claim. *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990); *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226 (Fed. Cir. 1989).

In the Final Office Action dated June 1, 2007, it was stated, "Obayashi, et al. discloses a multilayer stitchless seam comprising a first tape portion, a first substrate portion in contact with the first tape portion (figure 6 number 3), a second tape portion in contact with the first substrate portion (figure 6 number 11), a second substrate portion in contact with the second tape portion (figure 6 number 11 and 4), and a third tape portion in contact with the second substrate portion to provide a flexible seam between the layers (figure 6 number 13) wherein at least one of the first substrate and the second substrate is a composite substrate comprising at least two layers (col. 3 line 40)." With regard to a third substrate as is required in independent claim 123, the Final Office Action stated that Obayashi, et al. disclosed a third substrate portion at figure 6, number 12.

Figure 6 of Obayashi, et al. is duplicated below for convenient reference:

Fig. 6



Obayashi, et al. defines the reference characters of Figure 6 as follows:

1 – a fabric

2 – a fabric

3 – end portion of fabric 1

4 – end portion of fabric 2

11 – tape

12 – fin-shaped projection of tape 11

13 – fin-shaped projection of tape 11

C' – arrow indicating direction of deformation of fin-shaped projection 12

D' – arrow indicating direction of deformation of fin-shaped projection 13

Appellants respectfully submit that reference character 12 does not indicate a third substrate portion, as was indicated in the Final Office Action, but instead indicates a portion of the tape 11, and specifically, that portion of tape 11 that wraps around the end portion 3 of fabric 1. As depicted in Figure 6, fin shaped projection 12 of tape 11 is in contact with the top surface of the end portion 3 of fabric 1. Tape 11 can be described as having three contiguous portions, the first portion being fin shaped projection 12 that in Figure 6 of Obayashi, et al. is wrapped around the end of fabric 1 to contact end portion 3 of fabric 1. The second portion of tape 11 can be described as that portion of tape 11 that is between fabric 1 and fabric 2. Thus, the second portion of tape 11 contacts both end portion 3 of fabric 1 and end portion 4 of fabric 2. The third portion of tape 11 is fin shaped projection 13 that in Figure 6 is wrapped around the end of fabric 2 to contact end portion 4 of fabric 2. There is no third substrate portion in the seams of Obayashi, et al. as is found in claim 123 of the captioned application. In the

seams of Obayashi, et al. there is an end portion 3 of fabric 1 that is in contact with the tape 11 at both the top surface and the bottom surface of end portion 3 and there is an end portion 4 of fabric 2 that likewise is in contact with the tape 11 at both the top surface and the bottom surface of end portion 4. There is simply no third substrate portion in the seam.

As Obayashi, et al. fails to disclose each and every element as set forth in claim 123, as is required in a 35 U.S.C. §102(b) rejection, Appellants respectfully submit that independent claim 123 patentably defines over the cited reference and requests allowance of the claim.

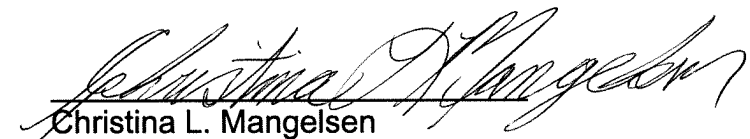
III. Conclusion

In conclusion, it is respectfully submitted that the claims are patentably distinct over the prior art of record, and that the present application is in complete condition for allowance. As such, Appellants respectfully request issuance of the patent.

Respectfully submitted,

DORITY & MANNING, P.A.

1/31/08
Date


Christina L. Mangelsen
Registration No. 50,244

P.O. Box 1449
Greenville, SC 29602
Telephone: (864) 271-1592
Facsimile: (864) 233-7342

8. CLAIMS APPENDIX

1-99. (Canceled).

100. (Rejected) A five layer stitchless seam comprising a first thermoplastic tape portion, a first substrate portion in contact with said first thermoplastic tape portion, a second thermoplastic tape portion in contact with said first substrate portion, a second substrate portion in contact with said second thermoplastic tape portion, and a third thermoplastic tape portion in contact with said second substrate portion to provide a flexible stitchless seam between the five layers, wherein at least one of said first thermoplastic tape portion, said second thermoplastic tape portion, and said third thermoplastic tape portion is a multi-layer tape portion that runs the length of the seam and includes a first continuous layer having a first melting point and a second continuous layer having a second melting point.

101. (Rejected) The seam of claim 100, wherein at least two of the tape portions are contiguous.

102. (Canceled).

103. (Rejected) The seam of claim 100, wherein at least two of said tape portions and said substrate portions are the same materials.

104. (Rejected) The seam of claim 100, wherein the first substrate portion and the second substrate portion are different materials.

105. (Rejected) The seam of claim 100, wherein at least one of the substrate portions comprises a barrier layer.

106. (Rejected) The seam of claim 105, wherein at least one of the substrate portions comprises a fabric.

107. (Rejected) The seam of claim 105, wherein both the first substrate portion and the second substrate portion comprise a fabric.

108. (Rejected) The seam of claim 100, wherein at least four areas of the first and second substrate portions are bonded in a cross-sectional area of the seam and wherein the seam has a strength greater than a double felled needle sewn seam made with the same substrates.

109. (Rejected) The seam of claim 100, wherein at least four areas of the first and second substrate portions are bonded in a cross-sectional area of the seam and wherein the tensile grab strength is at least about 85kg.

110. (Rejected) The seam of claim 100, wherein the tensile grab strength is at least about 114 kg.

111. (Rejected) The seam of claim 100, wherein the tensile grab strength is at least 135 about kg.

112. (Rejected) The seam of claim 100, wherein the tensile grab strength is at least about 150 kg.

113. (Rejected) The seam of claim 100, wherein the seam is a welded seam.

114-122. (Canceled).

123. (Rejected) A multilayer stitchless seam comprising a first tape portion, a first substrate portion in contact with said first tape portion, a second tape portion in contact with said first substrate portion, a second substrate portion in contact with said second tape portion, a third tape portion in contact with said second substrate portion to provide a flexible seam between the layers, and a third substrate portion, wherein at

least one of the first substrate and the second substrate is a composite substrate comprising at least two layers.

124. (Canceled).

125. (Canceled).

9. EVIDENCE APPENDIX

None

10. RELATED PROCEEDINGS APPENDIX

None